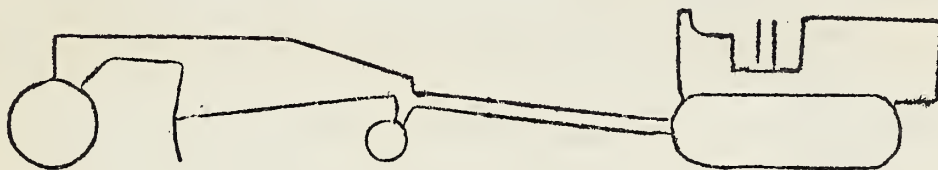


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CONSTRUCTION



HINTS

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COMPUTING QUANTITIES OF MATERIALS FOR CEMENT

Submitted by H. D. Rives and John Ward Johnson - CCC Camp S-52
New Lisbon, N. J.

Computation of quantities of materials for concrete work can be made very simply by the following method. Assume one cubic yard of concrete requires 42 cubic feet of dry materials. Proportion this volume to the mix required.

For example: Find quantities of sand, cement and stone for one cubic yard of $1:2\frac{1}{2}:4\frac{1}{2}$ concrete. $4\frac{1}{2}$ plus $2\frac{1}{2}$ plus 1 equals 8.

42 cu.ft.	times $\frac{1}{8}$	equals	5.25 cu.ft.	Cement
" "	" $2\frac{1}{2}/8$	"	13.10 cu.ft.	Sand
" "	" $4\frac{1}{2}/8$	"	23.60 cu.ft.	Stone

Divide by 27 to reduce to cubic yards for sand and stone.

Divide by 3.8 to reduce cubic feet cement to barrels.

Figures obtained by this method are net, NO allowance for waste. Method is approximate; but yardage figures will check to nearest 0.01 tables such as Merriman-Wiggin (page 1038); and for general field use has the advantage of simplicity, and ease of application by non-technical men.

(over)

REBUILDING TRACK RAILS AND ROLLERS
From Inspection Report of F. E. Wooldridge

The shops in Region 6 are doing considerable rebuilding of track rails. It is estimated that a rewelded rail will give approximately 30 months service. A new track assembly for a "50" size tractor costs as follows:

New track rail assembly	\$311.70	
New bolts, nuts	44.94	
Labor, taking off and installing new.	<u>20.00</u>	\$376.64

The costs of a rebuilt track are as follows:

Welder - 48 hrs. @ 80¢ per hour	\$ 38.40	
Repairs to welder - 6 days @ 15¢90	
Depreciation on welding equipment	3.00	
Grinding	2.50	
120 lbs. H.C.S.	<u>12.00</u>	\$ 56.80

or showing a saving of approximately \$325.00

The rebuilt rollers show an approximate saving of:

4 double rollers @ \$24.45 each	\$ 97.80	
6 single rollers @ \$21.05 each	<u>126.30</u>	\$224.10

Welder - 2 hours @ 80¢	\$ 1.60	
Depreciation and repair on welder22	
Machinist - 2 hours @ 80¢	1.60	
Depreciation on lathe & tools40	
7½ lbs. high carbon steel	<u>.75</u>	
	\$ 4.57	

The 10 rollers @ \$4.57 (rebuilt cost)	\$ 45.70
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SAVING FOR THE SET	\$178.40
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CONSTRUCTION HINT

By C. V. Stevens, Inspector, R-1

In digging telephone pole holes in soft ground, the following scheme has been found to work to advantage: A steel oil drum or a small grease drum is used as a caisson or cofferdam. This barrel is prepared as follows:

- (1) Remove both ends.
- (2) Cut barrel in half lengthwise.
- (3) Rivet or weld two pair of strap hinges on inside with center pins removed.
- (4) Punch or burn hole in top section to facilitate removal from hole by block and tackle.

The barrel is sunk as the hole is dug. After the pole is set, the pins are pulled on the hinges and the halves of the barrel are removed. In case trouble is encountered in removing the two pieces of barrel, the holes permit the use of a set of block and tackle. After removal the barrel can be used again.